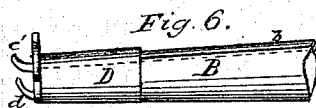
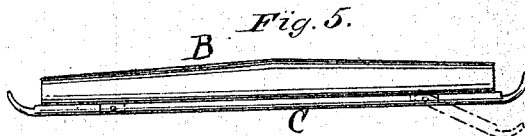
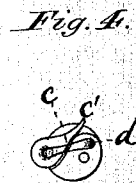
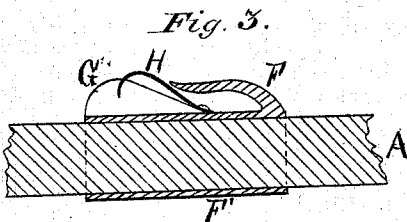
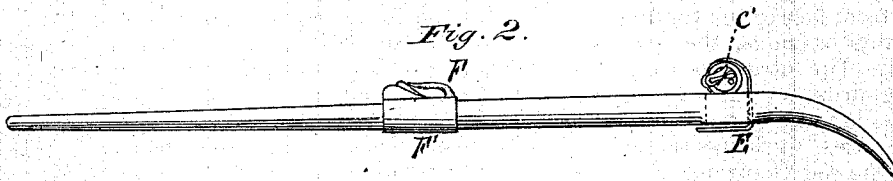
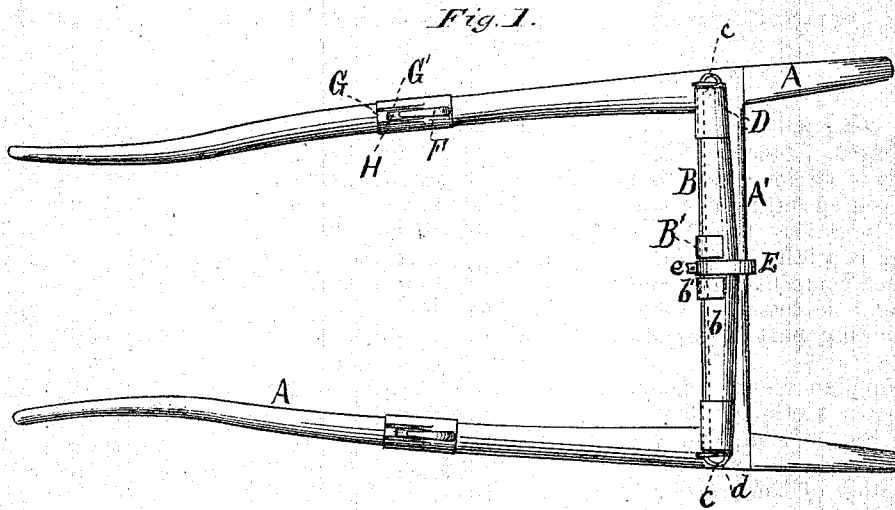


J. McNEILL.

Devices for Detaching Horses from Vehicles.

No. 139,803.

Patented June 10, 1873.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN MCNEILL, OF WELLS, MINNESOTA.

IMPROVEMENT IN DEVICES FOR DETACHING HORSES FROM VEHICLES.

Specification forming part of Letters Patent No. **139,803**, dated June 10, 1873; application filed April 23, 1873.

To all whom it may concern:

Be it known that I, JOHN MCNEILL, of Wells, in the county of Faribault and State of Minnesota, have invented certain new and useful Improvements in Safety Whiffletrees, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing and the letters of reference marked thereon making part of this specification, in which—

Figure 1 is a top-plan view. Fig. 2 is a side view. Fig. 3 is a sectional view of the hold-back hooks. Fig. 4 is an end view of the whiffletree with my improvement attached. Fig. 5 is a modification of the trace-rod and cockeye-hook, and Fig. 6 is an enlarged view of one end of the whiffletree.

The nature of my invention is as follows: In a groove in the front face of the whiffletree, by means of ferrules or rings, the trace or draft bar is secured. The ferrules or rings are formed with hook-guards, and the draft-bar at each end terminates in forked arms or prongs. The outer of these arms are hooks, or are so curved that when the rod is turned to fasten the cockeyes of the traces they shall form, in connection with hook-guards on the ferrules, closed bearings or eyes. The inner prongs at the ends of the draft-bars act as brake-arms in a double sense; they prevent the rod being revolved beyond the point at which its outer prongs shall meet, and form closed bearings with the guard-hooks of the ferrules, and they also serve to steady the rod and lever in position through frictional pressure, as the draft of the animal necessarily has a tendency to press these arms or prongs against the ends of the whiffletree. Thus a most secure and reliable fastening is afforded, and yet one that, through the action of a lever attached to the draft-bar, can at any moment be so operated as to disengage the traces. To this lever should be attached a cord which at all times should be within the reach of the driver. My invention also consists in casting or otherwise forming the hold-backs with sleeves which fit over the thills, and which are provided with curved flanged plates at their front section so arranged as to leave a socket-bearing for a plate-spring to work in. The hold-back and flanged plates are relatively so arranged that

the curved sections of the plates shall act, as it were, as a guide to direct the breeching-strap to the opening between the surface of the plates and the arm of the hold-back, and which greatly facilitates the fastening and relieving of the breeching, especially as this opening is purposely left just sufficient to pass the breeching-strap or its ring in edgewise, and which flanged plates, in connection with a spring so secured that its tension shall be constantly employed to force its plate against the outer section of the arms of the hold-back affords a closed and reliable fastening for the breeching, and yet at the same time one that can readily be opened by pressure, and which pressure, after the traces have been released, the slightest forward movement of the animal produces.

The construction and operation of my invention are as follows: A A are the carriage-thills, and A' is their cross or connecting bar, and are of ordinary construction. To the cross-bar A' is attached, by means of a pivot-bolt or any other usual fastening, the whiffletree B. In the front section of this whiffletree is a horizontal groove, *b*, clearly shown in dotted lines, Fig. 1. In this groove *b* rests and works the trace or draft-rod C. This rod C, at its outer ends, terminates in forked arms or prongs *c c'*. The rod C is secured in the groove in such manner as to allow of its free movement by means of ferrules or ring plates D D, the sockets of which fit over the whiffletree, and each of which are provided at their rear section with a hook-guard, *d*. At the center of the whiffletree is a slotted plate, B', the lower section of which so encircles the rod C as to leave over the same, as it were, two shoulders *b' b'*, between which the lever E, which is attached to and operates the rod C, works. This rod E has at its end an eye, *e*, to which may be attached a cord and strap, which should always be under the control of the driver.

To fasten the traces, you simply have to move the lever so as to bring the arms or prongs *c c'* into a vertical position. The cockeyes are then passed over the same and rest in the crotch formed by the arms *c* and *c'*. The lever E is now pulled down and the arms *c c'* carried to the position shown in Fig. 1, the

arms *c' c'* acting as brakes to prevent their being carried down beyond these points which would serve to release the traces. In this position it will be seen that the prongs *c c*, in connection with the hook-guards *d d* of the ferrules, form closed eyes, which insures a reliable fastening; and it will also be seen that the tendency of draft of the animal is to cause the arms *c' c'* to press against the ends of the whiffletree, and which pressure serves to steady the lever *E*, and keep the draft-bar *C* in a true position. It will readily be seen how slight an action of the lever *E* is necessary to so turn the hooked arms *c c* which hold the cockeyes to a position that the forward movement of the animal will instantly release the traces.

In Fig. 5 is shown a modification of the rod *C* and the cockeye-hook *c*, and in which the latter is pivoted to the rod instead of being formed therewith, and which permits of their being renewed without detaching the rod. *F F* are the hold-back hooks and are secured on the thills *A A* by means of ferrules or ring-plates *F'*. These plates are formed with flanges, *G' G'*, on their forward sections, and which are so arranged as to leave a socket, *G*, in which rests and works the plate-spring *H*. One end of these springs are bolted to the ferrules *F'*, and the other end left free. Their arrangement is clearly shown in an enlarged sectional view, Fig. 3, in which the springs are shown in the normal position.

By reference to Fig. 3 it will be seen that the curves of these plates *G' G'* are relatively so arranged as to leave just sufficient space for the breeching to pass edgewise between the surface of the plates and hold-back, and which arrangement in connection with the spring furnishes a most convenient, reliable, and durable fastening, as the plates protect the spring and relieve it of all pressure after it is depressed to a position flush with the surface of the plates, and which in consequence of the rough handling to which such devices are subjected is of the greatest advantage; and, in consequence of the fact

that in fastening and relieving the breeching so much of the strain falls on and is supported by the plates, an exceedingly light spring may be used. After the traces are free the forward movement of the animal will readily release the breeching.

I am aware that double-curved springs have been used before in connection with the hold-back, and which were so formed and arranged as to secure the breeching-ring in one of its curves and hold the same by constantly pressing it against the under side of the hook. Such a device as this requires the employment of an exceedingly heavy spring in order to withstand the rough handling and draft to which it will be subjected, and which is not only objectionable as this class of spring is expensive, and besides being heavy will not operate with the facility in releasing the breeching as mine does.

In my improvement the strain or pressure which is incident to the fastening and unfastening of the breeching falls directly on the curved faces of the flanged plates, the function of the spring simply being to close the narrow opening between the plates and hooks, and which permits of an exceedingly light and cheap spring being used, and one that can with the greatest facility be operated in inserting or withdrawing the breeching-strap.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The whiffletree *B*, rod *C*, having forked arms or prongs *c c* and *c' c'*, ferrules *D D*, having hook-guards *d d*, and lever *E*, the whole so combined and arranged as to operate substantially as described.

2. The ferrules *F'*, having hold-backs *F* and flanges *G*, in combination with the springs *H*, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN MCNEILL.

Witnesses:

H. A. PARK,
E. F. PARK.